Remarks

I. Status

Claims 1-5, 14, and 28-37 have been amended. Claims 1-37 are currently pending.

Assignee appreciates the Examiner's allowance of Claims 16-23. Assignee also appreciates the Examiner's acknowledgment that Claim 26 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

II. Section 101 Rejections

Claims 1-10, 12, 14-15, and 28-37 were rejected under 35 U.S.C. § 101 as directed to non-statutory subject matter. Assignee respectfully traverses the rejections and submits that the claims meet all of the requirements of Section 101. Assignee respectfully submits that the Section 101 analysis must be done with respect to the claims, as set forth below.

Regarding Claims 1-10, 12, and 14-15, the Office Action asserts that the claimed system encompasses "a software only embodiment that is non statutory". (Office Action, p. 3). The Office Action cites to paragraph 29 of the specification for the statement that the "voice enhancement logic may encompass hardware or software." For clarification, Assignee notes that this statement actually appears in paragraph 26 of the specification as filed.

The Federal Circuit has noted that it is improper to categorically reject software claims under Section 101. See In re Bilski, 88 U.S.P.Q.2d 1385, 1395 n.23 (Fed. Cir. 2008) (en banc) ("we decline to adopt a broad exclusion over software or any other such category of subject matter beyond the exclusion of claims drawn to fundamental principles set forth by the Supreme Court"). Therefore, the claims cannot be rejected under Section 101 merely because claimed components may be implemented in software. The claims are not drawn to fundamental principles (e.g., laws of nature), but rather particular machines that include, as examples, a wind buffet model, a noise detector, and a noise attenuator electrically connected to the noise attenuator. In other words, even if the claimed components are implemented in software, the resulting software constitutes a particular machine. As a result, the claims are tied to a particular machine in accordance with Bilski and meet all of the requirements of Section 101. See Bilski, 88 U.S.P.Q.2d at 1391. Therefore, Assignee requests withdrawal of the Section 101 rejections of these claims.

Regarding Claims 28-37, the Office Action asserts that the recited computer readable medium includes non-statutory subject matter. (Office Action, p. 2). The Office Action further asserts that Claims 28-37 are rejected because the "recited computer readable medium encompasses a signal that conveys/propagates the software" and that "signals are not patentable as they do not fall into one of the four categories of subject matter under 35 USC 101". (Office Action, p. 3). Claims 28-37 have been amended to recite a computer readable "memory". Paragraph 52 of the specification as filed notes that such memories include hardware memories such as RAM, ROM, and EPROM. Assignee therefore respectfully requests withdrawal of the Section 101 rejections of these claims.

III. Section 102 and 103 Rejections

Claims 1-3, 5-15, 24-25, and 27-37 were rejected under 35 U.S.C. § 102(e) as anticipated by Elko (U.S. Patent Application Publication No. 2003/0147538). Claim 4 was rejected under 35 U.S.C. § 103(a) as unpatentable over Elko in view of Mauro (U.S. Patent No. 6,122,384).

Amended independent Claim 1 recites a first noise detector that is adapted to detect a wind buffet from an input signal by deriving and analyzing an average wind buffet model comprising attributes of a line fit to a portion of the input signal. Similarly, independent Claim 28 recites signal analysis logic that models a portion of the sound waves that are associated with the wind to detect a wind buffet by deriving and analyzing an average wind buffet model comprising attributes of a line fit to a portion of the input signal. Elko does not teach or suggest these features of Claims 1 and 28.

Elko describes an audio system for reducing wind noise in an input signal using two or more closely spaced microphones. (Elko, ¶ 6). Wind noise is detected based on the difference in the powers of summed and subtracted signals of the microphones. (Elko, ¶¶ 6, 63, 101). Elko describes that "subtracted signals between microphones are of similar power to summed signals" when there is wind noise. (Elko, ¶ 6). Therefore, if the ratio of the subtracted power to the summed power is close to unity and below a specified threshold, then the input signal is deemed to be wind noise. (Elko, ¶¶ 63, 67, 105). The system then weights certain frequencies and filters the wind noise from the input signal to produce the output. (Elko, ¶ 105).

Elko includes no teaching or suggestion of deriving and analyzing an average wind buffet model including attributes of a line fit to a portion of an input signal, as recited in Claims 1 and 28, but instead only describes comparing the powers of two microphone signals. (Elko, ¶ 6). Furthermore, Elko does not derive or analyze a model because Elko merely examines the relationship between calculated summed and subtracted powers from the two microphones. If the ratio of the summed and subtracted powers are almost the same (e.g., close to unity), then wind noise is deemed to be present in the input signal. (Elko, ¶¶ 63, 67, 105). Claims 1 and 28, on the other hand, recite deriving and analyzing an average wind buffet model including attributes of a line fit to a portion of an input signal. Elko also does not describe any attributes of a line fit to the input signal because Elko only analyzes the "scalar" power levels from the microphones. (Elko, ¶ 44). Elko further does not fit a line or derive a model, much less an average wind buffet model, as in Claims 1 and 28. Claims 1 and 28 are therefore patentable for at least these reasons. Accordingly, the dependent claims of Claims 1 and 28 are patentable at least because they depend from their respective allowable base claims.

The Office Action asserts that Elko also shows the feature of Claim 2. Claim 2 recites that the first noise detector models the line to a portion of a low frequency spectrum of the input signal. The Office Action states that Elko "teaches where the noise detector estimates a power of a portion of the input signal and a noise power estimate" at ¶ 44. (Office Action, p. 4). As described above, Elko uses the power levels from microphones to determine whether a wind noise is present. Elko does not teach or suggest modeling of a line, as in Claim 2, but only compares the "scalar sum and difference signal power levels" to detect wind noise. (Elko, ¶ 44). Therefore, Claim 2 is also patentable at least these reasons.

Claims 24 and 27 recite fitting a line to a portion of an input signal and detecting a wind buffet when a high correlation exists between the line and the portion of the input signal. Elko does not teach or suggest this feature. As described previously, Elko compares microphone power levels to determine whether a wind noise is present. Elko also describes determining the coherence (linear relationship) between the input signals from the two or more microphones. (Elko, ¶¶ 7, 74, 101, 103). The coherence is used to calibrate the microphones to optimize the detection of wind noise in the system by determining if the input sound field is "sufficiently diffuse". (Elko, ¶¶ 81, 103-104; Fig. 13). If the sound field is

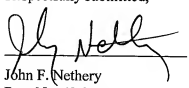
deemed to be diffuse, then the relative amplitude and phase of the microphones is computed and corrected. (Elko, ¶ 104).

However, Elko does not describe fitting a line and detecting a wind buffet based on a correlation between the line and a portion of the input signal, as in Claims 24 and 26, but only describes determining the coherence between signals received from microphones to calibrate microphones for "subsequent data". (Elko, ¶ 104; Steps 1308, 1314-1316, Fig. 13). In other words, the coherence determination does not affect the signal currently being processed, but instead corrects the microphone calibration for future incoming data. The decision about whether wind noise is present is performed separately, based on the microphone power level comparison described previously ("Whether or not the amplitude and phase calibration is updated in step 1316, processing continues to step 1318 where the difference-to-sum power ratio . . . is thresholded to determine whether turbulent wind-noise is present."). (Elko, ¶ 105; Step 1318, Fig. 13). Therefore, Claims 24 and 27 are patentable for at least these reasons. Claims 25 and 26 are patentable at least because they depend from allowable Claim 24.

IV. Summary

Assignee respectfully submits that the pending claims are patentable. If the Examiner believes that a telephone interview would be helpful in resolving any outstanding issues, the Examiner is respectfully invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,



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